This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-19. (Canceled)

20. (Currently Amended) A method for clearing misfolded proteins from blood comprising contacting a sample of blood with ~~the~~ a proteon nucleation center (PNC) ~~of claim 15~~ for a period of time, and removing the misfolded proteins from the sample.

21. (Currently Amended) A method for the cyclic amplification of proteons in a biological sample comprising the steps of:

a) placing an aliquot of a sample comprising a proteon nucleation center (PNC) comprising a metal cluster in an unheated subsample;

b) heating the subsample; and

c) determining the number of proteons in said sample; and

~~c)~~d) repeating steps (a), ~~and~~ (b) and (c) with aliquots taken from the most recently heated subsample for 1 or more cycles until the number of proteons determined to be in each heated subsample no longer increases.

22. (Currently Amended) The method of claim 21, ~~wherein steps (a) through (c) are repeated until the number of proteons obtained in each heated subsample no longer increases, wherein~~ further comprising correlating the number of proteons in the subsample in which the number of proteons no longer increases ~~is indicative of~~ to the amount of misfolded proteins present in the biological sample.

23. (Previously Presented) The method of claim 21, wherein the subsamples are each 1 ml and the aliquot is 5µl.

24. (Previously Presented) The method of claim 21, wherein a heating time is selected from the group consisting of 1, 5, 10, 15, 20, 25, 30, 25, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, and 120 minutes.

25. (Previously Presented) The method of claim 21, wherein a heating temperature is selected from the group consisting of 37, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, and 120°C.

26. (Previously Presented) The method of claim 21, wherein the number of cycles is selected from the group consisting of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, and 25 cycles.

27. (Previously Presented) The method of claim 21, wherein a heating pressure is selected from the group consisting of 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 and 25 psi.

28. (Previously Presented) The method of claim 21, wherein a heating pressure is ambient pressure.

29. (Previously Presented) The method of claim 21, wherein the number of cycles is 6, each of said cycles comprising a heating time of 15 minutes at a heating temperature of 60°C.

30. (Currently Amended) A method for the detection of a disorder comprising the steps of:

a) centrifuging a biological sample until a supernatant is formed;

b) dividing said supernatant into a plurality of subsamples;

c) heating a subsample;

d) obtaining an aliquot of said heated subsample;

e) placing said aliquot into an unheated subsample;

f) heating the subsample of (e); and

g) repeating steps d-f with aliquots taken from the most recently heated subsample for 1 or more cycles to produce proteons in said subsample;

~~further wherein proteons are produced, and wherein~~

h) contacting said proteons produced from a most recently heated subsample ~~are further contacted~~ with an antibody that binds to a protein selected from the group consisting of hemoglobin, prion protein, β-amloid, α-synuclein, tau protein,

serpins, neuroserpin, glutamate repeats, amylin, SOD, ApoB CFTR protein, immunoglobulin, amyloid light chain, serum amyloid A, transthyretin, β2-microglobulin, apolipoprotein A-1, cystatin C, lysozyme, prion protein fragments, beta protein fragment 1-40/43, immunoglobulin light chain or fragments thereof, serum amyloid A 78 residue fragment, transthyretin fragments, apolipoprotein A-1 fragments, cystatin A minus 10 residues, gelsolin 71 residue, islet amyloid polypeptide fragment, insulin, calcitonin fragments, atrial natriuretic factor, lysozyme and fragments thereof, and fibrinogen fragments~~.~~;

i) identifying the protein; and

j) correlating the identified protein to a disorder selected from the group consisting of sickle cell anemia, the presence of Heinz bodies, inclusion body hemolysis, drug-induced inclusion body hemolysis, cancer, atherosclerosis, malaria, infections, auto-immune disorders, toxic reactions, internal bleeding, Creutzfeld-Jacob disease (CJD), new variant CJD, bovine spongiform encephalopathy (BSE), Gerstmann-Straussler-Schheinker disease, fatal familial insomnia, kuru, Alzheimer's disease, Down's syndrome, familial Alzheimer's disease, Parkinson's disease, the presence of Lewy bodies, frontotemporal dementia, the presence of Pick bodies, α1-antitrypsin deficiency, cirrhosis, emphysema, antithrombin deficiency, thrombosis, C1-inhibitor deficiency, angioedema, neurodegenerative disease, the presence of Collins bodies, inherited neurodegenerative disorders, Huntington's disease, diabetes type II, amyotrophic lateral sclerosis, atherosclerosis, cystic fibrosis, systemic amyloid light chain amyloidosis, nodular amyloidosis, reactive systemic amloid A amloidoses, chronic inflammatory disease, senile systemic amloidosis, familial amyloid neuropathy, familial cardiac amyloidosis, hemodialysis amyloidosis, the presence of prostatic amyloid, familial amyloid polyneuropathy, familial visceral amyloidosis, hereditary (Icelandic) cerebral angiopathy, familial visceral amyloidosis, spongiform encephalopathies, primary systematic amloidosis, secondary systematic amyloidosis, familial amyloid polyneuropathy I, familial amylodi polyneuropathy III, cerebral amyloid angiopathy,

Finnish hereditary systemic amyloidosis, injection-localized amyloidosis, medullary thyroid carcinoma, atrial amyloidosis, non-neuropathic systemic amylodosis, and hereditary renal amyloidosis.

31. (Canceled)